

DOCKET NO.: MSFT-0281/163946.01  
 Application No.: 09/800,382  
 Office Action Dated: October 19, 2004

PATENT  
 REPLY FILED UNDER EXPEDITED  
 PROCEDURE PURSUANT TO  
 37 CFR § 1.116

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Previously Presented) A method of scheduling a future event comprising:

receiving a first event data, the first event data including a first event and a first-time at which a the first event is to occur;

creating a first data structure comprising a plurality of elements, each element associated with a time interval, the plurality of elements including at least a first element associated with a first time interval defined by a first start time and a first end time and a second element associated with a second time interval defined by a second start time and a second end time; ~~associated with said first event, said first data structure comprising a first element associated with a first start time and a first end time and a second element associated with a second start time and a second end time;~~

in response to determining that the time at which the first event is to occur falls within the first time interval, adding the first event to a list of events associated with the first element of the first data structure ~~associating said first event with said first element of said first data structure, said first time falling within said first start time and said first end time;~~

receiving a second event data including a second event and a time at which a the second event is to occur ~~said second time not falling within said first start time and said second end time of said first data structure;~~

in response to determining that the time at which the second event is to occur does not fall within any of the time intervals associated with the first data structure, creating a second data structure ~~for storing said second event data, said second data structure comprising a first third-element associated with a time interval encompassing the time at which the second event is to occur; and third start time and a third end time; and~~

adding the second event to a list associated with the first ~~associating said second event with said third element of said second data structure, said second time falling within said third start time and said third end time.~~

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2. (Original) The method of scheduling a future event of claim 1, wherein said first data structure comprises an array.
3. (Original) The method of scheduling a future event of claim 1, wherein said second data structure comprises an array.
4. (Currently Amended) The method of claim 1, further comprising:  
in response to determining that the time at which the second event is to occur falls within the second time interval, associating said second event with said second element of said first data structure.
5. (Previously Presented) The method of claim 4, wherein said act of associating said second event with said second element of said first data structure elements occurs after said second end time.
6. (Previously Presented) The method of claim 1, wherein said second end time is greater than said first end time.
7. (Previously Presented) The method of claim 6, wherein said first data structure comprises a plurality of elements corresponding to a plurality of time windows of a first duration and wherein a period of time represented by said time interval associated with the first element of the second data structure ~~third start time to said third end time~~ comprises a period of time represented by the aggregate of all time windows in said first data structure.
8. (Previously Presented) The method of claim 1, wherein said first element comprises a list pointer, and wherein said associating act comprises:  
adding to a list associated with said first element a list element indicative of said first event.
9. (Previously Presented) The method of claim 8, wherein said list pointer comprises an empty list.

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10. (Original) The method of claim 8, wherein said list comprises a doubly linked list.
11. (Previously Presented) The method of claim 1, further comprising the act of:  
initiating the events associated with said first; and  
repeating said initiating act for events associated with said second elements at a pre-determined time interval.
12. (Previously Presented) The method of claim 11, wherein said pre-determined time interval is a period of time from said first start time to said first end time.
13. (Previously Presented) The method of claim 1, wherein said first data structure comprises an array in which said first data structure elements are arranged in an order, and wherein said method further comprising the acts of:  
setting a pointer to point to said first element of said first data structure elements, said first element comprising a beginning element in said array;  
repeatedly advancing said pointer to a next element of said first data structure elements at a pre-determined time interval.
14. (Previously Presented) The method of claim 13, wherein said advancing act comprises:  
wrapping said pointer to the beginning element in said order.
15. (Original) A computer-readable medium having computer-executable instructions to perform the method of claim 1.
16. (Previously Presented) A system for scheduling future events comprising:  
a first data structure comprising a plurality of elements, each of the plurality of elements of the first data structure associated with a period of time defined by a start time and an end time, the plurality of elements of the first data structure comprising at least a first

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element associated with a first start time and a first end time and a second element associated with a second start time and a second end time;

a scheduling module which, in response to determining that a time at which a first event is to occur falls within the first start time and the first end time, creates a second data structure associated with the first element of the first data structure and adds the first event to the second data structure; a second data structure associated with the first element, the second data structure for storing a plurality of event data for events to be executed between the first start time and the first end time; and which in response to determining that a time at which a second event is to occur falls within the second start time and the second end time, creates a third data structure associated with the second element of the first data structure and adds the second event to the third data structure. a second data structure associated with the first element, the second data structure for storing a plurality of event data for events to be executed between the first start time and the first end time;

~~— a scheduling module which receives a first event data including a first event time at which a first event is to occur, and which stores said first event data in said second data structure, said first event time being within said first start time and said first end time.~~

17. (Original) The system of claim 16, wherein said first data structure comprises an array.

18. (Previously Presented) The system of claim 16, wherein each of said plurality of elements of said first data structure comprises a list pointer, and wherein said scheduling module adds said plurality of event data to a list pointed to by said first element.

19. (Original) The system of claim 16, wherein said list comprises a linked list.

20. (Currently Amended) The system of claim 16, further comprising:  
a ~~third~~ fourth data structure which corresponds to a time duration subsequent to said first end time and said second end time;

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wherein said scheduling module receives a second event data including a second time at which at the second event is to occur and associates said second event data with said ~~third~~fourth data structure, said second time not falling within any ~~said~~ period of time defined by said start time and said end time associated with said first data structure.